

45
B2
cut
laser is measured at the second photodetector. Differencer 924 accepts as inputs the signal provided by the photodetectors 920-922. The photodetectors in combination with the differencer comprise an error detector to detect a difference in energy levels of the beam at the input and output of the vernier tuned filter and to provide an output in the form of an error signal. The error signal, may be subject to amplification in amplifier 926 and is supplied to the laser 900 and to logic 900C therein for adjusting a wavelength control parameter of the laser, e.g. drive current. In an embodiment of the invention, where the control parameter is current, the output of the amplifier may be coupled to logic which includes a summer which sums the error signal and a laser drive signal to drive the laser.

IN THE CLAIMS

Please amend claim 1 as follows:

546 B3
Ave
1. (Amended) A tunable filter for use in optical communication apparatus, said tunable filter being tunable to each selected center wavelength of a number of channels, and each of the channels centered on a corresponding gridline of a selected wavelength grid; said tunable filter comprising:
a grid generator mounted for optical alignment in an optical path of a beam, and the grid generator of a first selected optical path length determinative of a first free spectral range substantially corresponding to a spacing between adjacent gridlines of the selected wavelength grid; and
a channel selector mounted for optical alignment in the optical path of the beam, and the channel selector with a tunable second optical path length determinative of a second free spectral range differing from the first free spectral range by an amount corresponding substantially inversely with the number of channels of the selected wavelength grid and said second optical path length tunable to a selected one of the number of channels of the wavelength grid.